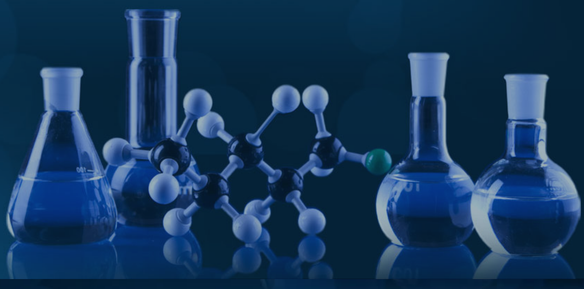

Pure Water

Pure Water For Optimum Health

While pure water is both tasty and healthful, tap water is often neither tasty nor pure. Contaminants that may be found in tap water are 1) toxic metals, 2) organic chemicals such as pesticides and nitrites and 3) bacteria or other microorganisms. Most city water supplies are chlorinated to kill bacteria, but chlorine itself is not healthful to drink. According to the National Institute of Health, 20% of bladder cancer in non-smokers can be traced to drinking chlorinated water.

Aluminum and fluoride are added to most municipal water supplies. Aluminum is added to help settle dirt out of the water. Fluoride is supposed to reduce cavities, however, many studies indicate no benefit whatsoever. Fluoride is a highly toxic chemical. Some cities also add copper to the water supply to kill algae. Let us discuss some options for pure drinking water.

Carbon Filtration

The simplest and least expensive way to purify water is to pass it through activated charcoal. Carbon filters are sold at many department stores. The filter clips to a faucet or is installed on the incoming water line.

A carbon filter will remove chlorine, organic chemicals and some heavy metals. It will improve the taste of the water. Carbon filters are inexpensive and no electricity is needed to produce purified water. Also, pure water can be produced on demand just by turning on the tap.

Disadvantages of carbon filtration are that it will not remove many toxic metals, including lead, mercury, cadmium and fluoride. Also, carbon filters become saturated and must be replaced regularly to maintain the quality of the water. Furthermore, bacteria will grow on carbon after a while, often making the carbon filter a repository of bacteria.

An improvement over the simple carbon filter is the 'carbon block'. This is more densely-packed, finer carbon that traps smaller particles and some toxic metals. These filters usually have stages of carbon to remove different-sized particles. They are more expensive, but do a better job than plain carbon. However, carbon block filters must still be changed regularly and can still harbor bacteria. The carbon block also does not remove all toxic metals.

Distillation

Distillation involves boiling water and then recondensing it. All minerals and many chemicals are left behind when the water is boiled. Distillation produces a very pure, mineral-free, bacteria-free water.

A problem with distillation is that organic chemicals boil at a temperature lower than water boils and recondense in the purified water. This problem is important in some areas of the country. It is solved by a system called *fractional distilling*, or running the distilled water through a carbon filter. There are unique distillation systems that double boil the water in order to boil off organic chemicals. Some people find distilled water flat-tasting unless a little air is allowed to mix with the water. Distillers run on electricity and are higher in cost than other systems. They must also be cleaned after every use. An hour or more is needed to produce a gallon of water.

Distilled water has been criticized because it is said to leach minerals from the body. However, on nutritional balancing programs, the idea is to remove certain minerals from the body. One can replace the vital minerals through diet or in tablet form.

Reverse Osmosis

Reverse osmosis involves forcing water through a micro-pore plastic membrane that allows only water to pass through. The purified water is then passed through a carbon filter to eliminate gases and other volatile chemicals. Counter-top or under-the-sink units are available in hardware and department stores. Reverse osmosis is the industry standard for water purification. It produces almost distilled-quality water. The filters operate on the water pressure and use no extra electricity.

Disadvantages of reverse osmosis include having to change the membrane and carbon filters regularly to maintain water quality. Also, some water is wasted because the membrane is backwashed to prevent clogging. Water is produced slowly, requiring an hour or so to produce a gallon of water.

Other methods of purification include deionization and resin exchange. These methods are less common for home use.

Bottled And Spring Water

Water from springs around the world can be delivered or purchased at supermarkets. Spring water quality varies depending on the source. Spring waters are often high in minerals, which is fine providing they are not toxic metals. Hopefully spring water is not contaminated with pesticides or nitrates, but one cannot tell from the label. Good spring water is fine to drink, but its purity is not assured.

Supermarkets or machines outside of markets often sell 'purified' or 'drinking' water. It may be produced by reverse osmosis and/or deionization and carbon filtration. It is inexpensive, however, it is hard to tell when the filters were last changed. Therefore quality may vary. Some bottled drinking water has fluoride added back which is not recommended. Fluoride is already widespread in our food chain due to the use of fluoridated water for watering crops and for processing food. More fluoride is not usually needed and can be toxic.

What About 'organic Minerals'?

Some people claim that the minerals in water are not usable and even harmful unless the water is from fruit juice or some other 'natural' source. Some very healthy tribes, such as the Hunzas in Asia, drink a highly mineralized water - almost milky in appearance. Minerals from water are able to be used if the body can bind or chelate them in the stomach.

Minerals found in fruit juice are not more absorbable just because the water is found in the fruit. Another error is to refer to fruit juice as 'distilled by nature'. Juice is not distilled, as this means the elimination of all the minerals by boiling and recondensing.

In summary, carbon filtration is the simplest and most inexpensive method of filtration. However, distillation and reverse osmosis produce a more pure water. Some bottled and spring waters are also very tasty and healthful.

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